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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,360	06/14/2000	Dennis W. Crabtree	0110SS: 44500	8364

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 08/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/593,360

Applicant(s)

CRABTREE ET AL.

Examiner

Christopher S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 19, 21-38 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-18, 20 and 39-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendment filed May 29, 2002 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

3. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, does not disclose: "at least 500 gpm" recited in claim 20.
4. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for 500 gpm to 2000 gpm (page 3, lines 9-10), does not reasonably provide enablement for flow rates greater than 500 gpm. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The specification does enable a flow rate approaching infinity.
5. Claims 12-18, 20 and 29-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The marked-up version of the claims is not in agreement with the clean version of the claims. For example, the marked-up version indicates an insertion of "the" in line 9 which is not reflected in the clean version.

In claim 12, the recitation of "fire fighting foam concentrate" in line 8 appears to be a double inclusion of the "fire fighting concentrate" recited in line 1.

Claim 12 recites "the foaming concentrate" in line 9 (marked-up version). There is insufficient antecedent basis for this limitation in the claim.

Claims 13 and 18 recite "lateral movement". The movement of the baffle/piston does not appear to be "lateral", especially in Species E, figure 3D. Applicant is required to define "lateral" in the response to this Office action. Applicant is required to identify support in the specification for any explanation given.

Claim 14 recites "the lateral movement" in line 2. There is insufficient antecedent basis for this limitation in the claim.

The above are examples and not a comprehensive listing. Applicant is required to review ALL of the claims in their entirety to ensure FULL compliance with 35 U.S.C. 112, second paragraph.

### ***Claim Rejections - 35 USC § 102***

6. Claims 12-18 and 39-43 (as best understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Klein (4,224,956).

With respect to claims 12-15, Klein discloses a method for proportioning fire fighting foaming concentrate into a variably flowing fire fighting fluid passing through a

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conduit comprising: adjusting a fire fighting fluid orifice 18; varying a fire fighting foam concentrate orifice 54; supplying fire fighting foam concentrate (column 1, lines 16-28).

With respect to claims 16-17, Klein further discloses a pilot valve 36 and spring 38.

With respect to claims 13 and 18, Klein further discloses a baffle/piston 36.

With respect to claims 39-43, Klein discloses a method for proportioning foam concentrate comprising: placing pressurized fire fighting foam concentrate in communication with pressurized fire fighting fluid flowing through a conduit (through opening 54); arranging a pilot valve 36. Measuring pressure drop is accomplished since the degree to which opening 54 is opened depends on the pressure drop across element 36.

### ***Claim Rejections - 35 USC § 103***

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klein (4,224,956).

Klein discloses the limitations of the claimed invention with the exception of the nozzle and the flow rate range.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the valve of Klein as a terminal member (a nozzle) to spray the mixed fluid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a flow rate of at least 500 gpm for optimization

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dependent of operating criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

8. Applicant's arguments filed May 29, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that "adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies" and "varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting fluid orifice" are not disclosed, there is period wherein flow through orifice 18 opens orifice 54. The baffle/piston 36 moves from left to right as shown in figures 5-8 and during such movement the degree of opening of orifice 54 is dependent on (in concert with) the flow rate of fluid through orifice 18. The claims do not preclude the baffle/piston bottoming out with different flow rates.

In response to applicant's argument that "a varying fire fighting fluid orifice acting as a fire fighting fluid flow rate indicator" and "varying a foam concentrate orifice at a rate calibrated in concert with variations of the fire fighting fluid orifice" are not disclosed, the movement of baffle/piston 36 acts as an indicator. The claims are not limiting to a particular indicator. There is period wherein flow through orifice 18 opens orifice 54. The baffle/piston 36 moves from left to right as shown in figures 5-8 and

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during such movement the degree of opening of orifice 54 is dependent on (in concert with) the flow rate of fluid through orifice 18. The "rate calibrated" is provided by the spring.

In response to applicant's argument that "arranging a pilot valve sensitive to flow rate of the fire fighting fluid in the conduit" is not disclosed because the valve of Klein is "on" or "off", the valve of Klein is not digital. The valve 36 must move from left to right as shown in figures 5-8 and during such movement the degree of opening of orifice 54 is dependent on (in concert with) the flow rate of fluid through orifice 18.

In response to applicant's argument that "measuring pressure drop" is not disclosed, the valve 36 must move from left to right as shown in figures 5-8 and during such movement the pressure drop is measured by the valve 36 and the spring 38.

In response to applicant's argument that "automatically adjusting a fire fighting nozzle to control discharge pressure" and/or "automatically varying a foam proportioning orifice to meter foam concentrate self-educted into the nozzle in accordance with fire fighting fluid flow rate through the nozzle, there is period wherein flow through orifice 18 opens orifice 54. The baffle/piston 36 moves from left to right as shown in figures 5-8 and during such movement the degree of opening of orifice 54 is dependent on (in concert with) the flow rate of fluid through orifice 18.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (703) 308-8336. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry C. Yuen can be reached on (703) 308-1946. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7766 for regular communications and (703) 308-7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

CK  
August 1, 2002

**CHRISTOPHER KIM**  
**PATENT EXAMINER**

  
AUGUST  
8/1/02